1. (Twice Amended) A magnet type stepping motor comprising:

(1) a stator having three-phase stator windings, and 6m pieces of stator main pole arranged side by side, where m is an integer and ≥ 1, the stator windings of one phase being wound around a first stator main pole and every third stator main pole among the 6m pieces of the stator main pole, wherein when the stator windings of one phase are excited with a direct current, m pieces of N pole and m pieces of S pole are formed alternately on those pieces of stator main pole that correspond to the excited stator windings, and

(2) a rotor of a cylindrical permanent magnet magnetized in the circumferential direction so as to form Z/2 pieces of N pole and Z/2 pieces of S pole alternately, where Z is the number of rotor poles.

2. (Amended) A magnet type stepping motor comprising:

(1) a stator having three-phase stator windings, and 6m pieces of stator main pole arranged side by side, where m is an integer and ≥ 1, the stator windings of one phase being wound around a first stator main pole and every third stator main pole among the 6m pieces of the stator main pole, wherein when the stator windings of one phase are excited with a direct current, m pieces of N pole and m pieces of S pole are formed alternately on those 6m pieces of stator main pole that correspond to the excited stator windings, and

(2) a rotor of a cylindrical permanent magnet magnetized in the circumferential direction so as to form Z/2 pieces of N pole and Z/2 pieces of S pole alternately, where Z is the number of rotor poles, and wherein the number of rotor poles is set to m ·(12n± 2), where n is an integer and ≥ 1.

3. (Amended) A magnet type stepping motor comprising:

(1) a stator having three-phase stator windings, and 6m pieces of stator main pole arranged side by side, where m is an integer and ≥ 1, the stator windings of one phase being wound around a first stator main pole and every third stator main pole among the 6m pieces of the stator main pole, wherein when the stator windings of one phase are excited with a direct current, m pieces of N pole and m pieces of S pole are formed alternately on those 6m pieces of stator main pole that correspond to the excited stator windings, and

(2) a rotor of a cylindrical permanent magnet magnetized in the circumferential direction so as to form Z/2 pieces of N pole and Z/2 pieces of S pole alternately, where Z is the number of rotor poles, and wherein the number of rotor poles is set to m ·(12n± 2), and a plurality of pole teeth are formed on each of the stator main poles, where n is an integer and ≥ 2.

20. The stepping motor of Claim 1, wherein each stator pole piece further includes a notched portion having at least two raised teeth, and the arcuate width of each pole piece notched portion is at least the arcuate width of three proximate rotor poles.

21. The stepping motor of Claim 1, wherein each stator pole piece further includes a notched portion having three raised teeth, and the arcuate width of each pole piece notched portion is at least the arcuate width of five proximate rotor poles.

22. The stepping motor of Claim 1, wherein each stator pole piece further includes a notched portion having three raised teeth, and each stator pole piece overlaps at least four rotor poles.

23. The stepping motor of Claim 1, wherein each stator pole piece further includes a notched portion having three raised teeth, and each stator pole piece overlaps at least five rotor poles.

24. (Amended) A magnet type stepping motor comprising:

a stator having three-phase stator windings and 6m stator pole pieces, where m is an integer and ≥ 1, the stator windings of one phase being wound around a first stator pole piece and every third stator pole piece among the 6m the stator pole pieces, wherein when the stator windings of one phase are excited with a direct current, m pieces of N pole and m pieces of S pole are formed alternately on those stator pole pieces that correspond to the excited stator windings; and

a rotor of a cylindrical permanent magnet magnetized along the circumference so as to form a plurality of continuously alternating N and S rotor poles, wherein the number of N rotor poles equals the number of S rotor poles.

25. The stepping motor of Claim 24, wherein each stator pole piece further includes a notched portion having at least two raised teeth, and the arcuate width of each pole piece notched portion is at least the arcuate width of three proximate rotor poles.

26. The stepping motor of Claim 24, wherein each stator pole piece further includes a notched portion having three raised teeth, and the arcuate width of each pole piece notched portion is at least the arcuate width of five proximate rotor poles.

27. The stepping motor of Claim 24, wherein each stator pole piece further includes a notched portion having three raised teeth, and each stator pole piece overlaps at least four rotor poles.

28. The stepping motor of Claim 24, wherein each stator pole piece further includes a notched portion having three raised teeth, and each stator pole piece overlaps at least five rotor poles.

29. (Amended) A magnet type stepping motor comprising:

a stator having three-phase stator windings and twelve stator pole pieces, the stator windings of one phase being wound around a first stator pole piece and every third stator pole piece among the twelve the stator pole pieces, wherein when the stator windings of one phase are excited with a direct current, two pieces of N pole and two pieces of S pole are formed alternately on those stator pole pieces that correspond to the excited stator windings; and

a rotor of a cylindrical permanent magnet magnetized along the circumference so as to form alternating N and S rotor poles, wherein the number of N rotor poles equals the number of S rotor poles.

REMARKS

Claims 1 - 3 and 20 - 29 are pending in this application. By this Amendment, claims 1-3, 24 and 29 are amended. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Allowable Subject Matter

Applicants gratefully acknowledge the Examiner's indication of allowable subject matter